REMARKS

Claims 1-15 have been examined and claims 1-18 are pending in the application. New claims 19-28 have been added to further describe the patentable features of the present invention.

As a preliminary matter, Applicants filed a national stage application with an Article 34 amendment adding new claims 16-18 on April 14, 2006. It appears the Examiner failed to consider claims 16-18 in the present Office Action. Therefore, Applicants request the Examiner consider these claims and to issue a new Non-Final Office Action or deem the claims allowable as a matter of right.

I. Claim Rejections - 35 U.S.C. § 102

Claims 1-15 stand rejected under 35 U.S.C. § 102 (b) as allegedly being by Gruhl et al. (US Pub. No. 2002/0004379). Applicants traverse this rejection based on the following comments.

A. Claims 1, 8 and 13

Claim 1 recites:

> A system for efficient uplink signaling to support closed loop capacity scheduling between a base station and a mobile station both of which carry out a plurality of data flows different in priority and QoS from one another,
> the mobile station assigning an uplink capacity for the data flows in accordance with the steps of:
> preparing combinations of capacities concerned with combinations of the data flows;
> modifying the combinations of the capacities into modified combinations of capacities; and
> determining the uplink capacity on the basis of the modified combinations of capacities. (emphasis added).

The Examiner asserts that Gruhl discloses each and every feature of claim 1. Applicants respectfully disagree.

Gruhl relates to network in which a new call (i.e., a new flow) via a selection of a user specifies a required Quality of Service (QoS) and a required level of degradation, and the new call is accepted into a cell only if the two above requirements are met and if the requirements of already existing calls (flows) will not be unacceptably affected (Abstract and paragraph 27). More particularly, Gruhl discloses assigning a guaranteed minimum bandwidth to individual flows and controlling the admission of new flows to the system (paragraph 6). Thus, in order to admit a new flow, the guaranteed minimum bandwidth must be available to be assigned to the new flow based on the two requirements or descriptors selected by a user. In other words, Gruhl merely discloses admitting or denying new flows on an individual basis.

The Examiner asserts that paragraphs 6 and 46-54 of Gruhl disclose the claimed preparing of combination of capacities concerned with combinations of the data flows. However, paragraphs 46-54 appear to merely establish the assumption of what a data flow is, the assumption of the existence of multiple data flows from a single user, and specify a level of service between telecommunications cells to be applied for the new data flow selected by a user. Thus, paragraphs 6 and 46-54 of Gruhl merely disclose that before a new flow is input into the system and before the new flow is judged by the Connection Admission Controller (CAC) 70 to be admitted into a cell, the new flow is establish as having a certain QoS requirements. It is only after the new flow is accepted into the cell, that the CAC 70 generates a "create flow queue" message and a queue 74 is set up for the new flow (paragraph 67).

Claim 1, on the other hand, requires that the mobile station assigns an uplink capacity for the data flows by "preparing combinations of capacities concerned with combinations of the data flows." Paragraphs 6 and 46-54 of Gruhl make no mention of combinations of capacities concerned with combinations of the data flows, and more particularly, make no mention of the

cell preparing combinations of capacities concerned with combinations of the data flows. Simply put, the cell cannot perform the steps of claim 1 before a new flow is even accepted into the cell. That is because, if the new data flow is rejected, the rejected data flow at least cannot be considered in the combination of data flows. Gruhl simply does not disclose preparing combinations of capacities concerned with combinations of the data flows by the mobile station, as recited in claim 1.

For example, Figure 1 of the present specification illustrates the concept of Combination of Capacities (CC). Each row of the table in Figure 1 represents one instance of CC. CC1 represents that Flow 1, Flow 2 and Flow 3 can use 128 bit, 32 bits and 0 bit respectively. There are 5 CCs in this example and each of 5 CCs represents a different combination of allowed capacity for each data flow. Furthermore, the base station can choose the allowed subset of CCs out of 5 CCs in order to control the allowed capacities for each data flow.

Gruhl, however, discloses that all data flows are handled separately (see above, discloses assigning a guaranteed minimum bandwidth to individual flows and controlling the admission of new flows to the system and paragraph 47). In addition, a scheduler 80 only serves each flow queue, which corresponds to an individual flow, depending on the flow's QoS requirements (paragraphs 67 and 68). That is, the scheduler 80 only serves each flow on an individual basis based on the flow's QoS requirements. Therefore, Gruhl appears to teach away from preparing combinations of capacities concerned with **combinations of the data flows**.

In addition, claim 1 recites "modifying the combinations of the capacities into modified combinations of capacities." The Examiner asserts that paragraph 45 of Gruhl discloses this feature of claim 1. Again, Gruhl merely discloses establishing a new flow having certain QoS requirements. A flow queue is generated for the new flow if the new flow is accepted into the

cell. In particular, paragraph 45 of Gruhl merely states that the QoS terms used within the specification are based on certain published documents (see also paragraphs 40-44). Paragraph 45 of Gruhl also states that the QoS maintenance is adaptive and that a QoS is maintained throughout the lifetime of a connection (see also paragraph 5). The actual QoS of a data flow is not adaptive as asserted by the Examiner. Also, nothing in paragraph 45 of Gruhl discloses or fairly suggests modifying the combinations of the capacities into modified combinations of capacities by the mobile station, as recited in claim 1. Furthermore, paragraph 45 of Gruhl fails to describe any relationship to a new flow that may be accepted into the cell, combinations of data flows, or modifying the combinations of the capacities.

In view of the above, Gruhl fails to disclose or fairly suggest each and every feature of claim 1. Therefore, claim 1 is patentable for at least this reason.

Claims 8 and 13 include analogous, though not necessarily coextensive features recited in claim 1, and therefore, claims 8 and 13 are patentable for the reasons discussed for claim 1.

B. Claims 2 and 9

Claim 2 recites that the step of modifying the combinations of the capacities includes:

> dividing the data flows with reference to the priority and QoS into a plurality of groups; and
> individually pointing the plurality of groups by sub pointers to obtain the modified combinations of capacities. (emphasis added).

The Examiner appears to assert that paragraph 7 of Gruhl discloses "dividing the data flows with reference to the priority and QoS into a plurality of groups." Paragraph 7 of Gruhl broadly describes dividing types of services (e.g., voice, video conferencing, web browsing, and email) into types of classes. That is, generally it is well known in the art that a voice service is a different type of service than email. However, Gruhl fails to disclose dividing data flows with

reference to the priority and QoS into a plurality of groups by a mobile station during an assignment of an uplink capacity.

Furthermore, Gruhl discloses that all data flows are handled separately (see above, discloses assigning a guaranteed minimum bandwidth to individual flows and controlling the admission of new flows to the system and paragraph 47). In addition, a scheduler 80 only serves each flow queue, which corresponds to an individual flow, depending on the flow's QoS requirements (paragraphs 67 and 68). That is, the scheduler 80 only serves each flow on an **individual basis** based on the flow's QoS requirements. Therefore, Gruhl appears to teach away from preparing combinations of capacities concerned with **combinations of the data flows**. In other words, Gruhl teaches against dividing data flows into a plurality of groups, since Gruhl teaches that each data flow must be handles separately. Thus, data flows cannot be combined into groups.

More particularly, data flows according to Gruhl cannot be combined into groups such that the plurality of groups are individually pointed to by sub pointers, according to claim 2. Firstly, Gruhl makes no mention of sub pointers. Secondly, Gruhl discloses that a scheduler 80 serves each flow queue depending on the flow's QoS requirements (paragraphs 67 and 68). Thus, the queue of a flow having a more strict QoS requirement will be served before the queue of a flow having a less strict QoS requirement. Therefore, even assuming arguendo that the scheduler 80 operates with a pointer, Gruhl at best discloses that a single pointer is used for the flow queue being served. That is because only one flow is served or handled at a time, and data flows are not handled in a group according to the present invention. Gruhl fails to disclose or fairly suggest utilizing more than one pointer, and more particularly, a plurality of sub pointers.

Claim 9 includes analogous, though not necessarily coextensive features recited in claim 2, and therefore, claim 9 is patentable for the reasons discussed for claim 2.

C. Claims 3 and 10

Claim 3 recites that "the dividing step includes dividing the data flows into a first group of a high priority and a second group of a low priority." However, Applicants submit that claim 3 is patentable for reasons similar to those presented above in conjunction with claim 2. That is, Gruhl fails to disclose dividing the data flows into a plurality of groups based on a high priority and a low priority. Furthermore, Gruhl fails to disclose individually pointing to the groups by sub pointers. Therefore, claims 3 and 9 are patentable for at least these reasons.

D. Claims 4 and 11

Claim 4 recites transmitting the representatives of the sub pointers by arranging them within a capacity request frame. Again, Gruhl fails to disclose sub pointes, and more particular, transmitting the representative of sub pointers by arranging them within a capacity request frame. The Examiner asserts that paragraph 48 of Gruhl discloses the above features of claims 4 and 11. A connection request, according to Gruhl, merely contains information about the new data flow so that the CAC 70 can determine whether to accept or reject the new flow into the cell (paragraphs 48, 63, 64 and 67). A connection request is not a pointer, or a transmission of the representative of a sub pointer. Furthermore, Gruhl fails to disclose a capacity request frame or arranging representatives of the sub pointers within a capacity request frame. Therefore, claims 4 and 11 are patentable for at least these reasons.

E. Claims 5 and 6

Claims 5 and 6 should be patentable for at least the reasons discussed above in conjunction with claim 4.

F. Claims 7 and 12

Applicants submit that claims 7 and 12 are patentable at least by virtue of their dependencies.

F. Claim 14

Claim 14 recites that "the capacity request message frame includes two different choices of frames." The Examiner asserts that paragraph 51 of Gruhl discloses the above features. Paragraph 51 of Gruhl merely describes two descriptors or requirements specified by a data flow such that the data flow can be transmitted to those specifications. Paragraph 51 of Gruhl does not relate to a capacity request message frame, or two different choice of frames therein. Gruhl merely teaches that a flow is served based on its flow queue (paragraph 68). Gruhl fails to mention anything about a capacity request message frame. Therefore, claim 14 is patentable for at least these reasons.

F. Claim 15

Applicants submit that claim 15 is patentable at least by virtue of its dependencies on claims 13 and 14.

II. New Claims

By this Amendment, Applicants have added new claims 19-28 to further define the claimed invention. Applicants respectfully submit claims 19-28 recite additional features which are not taught or suggested by the prior art of record.

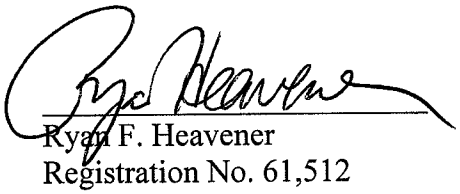
III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the

Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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